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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,524	10/26/2000	Dennis Brandon	23456	4489

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EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/697,524

Applicant(s)

BRANDON ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,14,21-23 and 27 is/are rejected.
- 7) ☒ Claim(s) 12,13,15-20 and 24-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \*   c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 6, 7, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable under Kawamura in view of Benson.

Kawamura discloses a first and second wheel 9 with a first and second motor 8 mechanically connected, a generator 2, an engine 1, a battery 11, an inverter 4 (see figure 1).

However, Kawamura does not disclose that a switch reluctance or brushless motor may be used.

On the other hand, Benson discloses for the purpose of improving the constant speed control mechanism of electric mowers that such motors, switch reluctance or brushless motors may be used in the system (see claims 7, 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a drive system as disclosed by Kawamura and to modify the invention by using a switch reluctance motor for the purpose of

improving the constant speed control mechanism of electric mowers as disclosed by Benson.

3. Claims 5, 8, 9, 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura and Benson as applied to claim 1 above, and further in view of Deguchi et al.

The combined drive system discloses all of the elements above. However, the combined drive system does not disclose having a reduction gear between the wheels and the motor.

On the other hand, Deguchi et al discloses for the purpose of improving the efficiency of fuel consumption, a gearbox 6 between a motor 4 and a wheel 8 (see figure 1).

Kawamura, Benson and Deguchi et al disclose inherently using a belt system between the engine and the generator since it is well known in the art to use belts for linking driving devices such as a combustion engine and an alternator/generator.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined drive system as disclosed above and to modify the invention by using low gear reduction for the purpose of improving the efficiency of fuel consumption as disclosed by Deguchi et al.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura and Benson as applied to claim 1 and 3 above, and further in view of Arimitsu.

The combined drive system discloses all of the limitations above. However, the combined drive system does not disclose that the motors may function independently.

On the other hand Arimitsu discloses for the purpose of reducing current loss, a switch reluctance motor 3. Also, it is disclosed that the two motors may be rotated independently (column 7, lines 3-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined drive system as disclosed above and to modify the invention by using a reluctance motor for the purpose of reducing current loss as disclosed by Arimitsu.

5. Claims 10, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura and Benson as applied to claim 1 above, and further in view of Krohling et al.

The combined drive system discloses all of the limitations above. However, the combined drive system does not disclose controlling the generator through its excitation.

On the other hand, Krohling et al discloses for the purpose of reducing overloading and improving torque output, a system in which the generator is control by a speed signal and a controller in which the field excitation of the generator is used for controlling the generator (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined drive system as disclosed above and to modify the invention by controlling in a certain manner the generator for the purpose of reducing overloading and improving torque output as disclosed by Krohling et al.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 3-27 have been considered but are moot in view of the new ground(s) of rejection.

*Allowable Subject Matter*

7. Claims 12, 13, 15-20 and 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

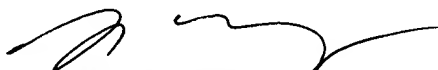
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

March 12, 2003

  
NESTOR RAMIREZ  
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